SKYRAD

- **Clean the WSI, PSP, PIR, NIP, UVB, and IRT every day. Note the time of cleaning on the fax sheet (Item 5 on Fax Sheet).**

SKYRAD – PSP (unshaded)
See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is ventilator fan running?		
4.	Is the dome free of scratches or pits?		
5.	Is the dome free of cracks?		
6.	Are all cables and cable connectors securely attached and free of damage?		
7.	Is desiccant dry/blue? *If NO, see Procedure PRO(PSP)-002.*		

SKYRAD – UVB
See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		

SKYRAD – MFRSR
See Procedure PRO(RSR)-001

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		
2.	Is the sensor free of dirt and debris? *If NO, see Procedure PRO(RSR)-001.*		
3.	Is the MFRSR shadowband rotating 3 times per minute?		
4.	Did the band stop 3 times during rotation?		
5.	During the second stop, did band shade the detector?		

SKYRAD – IRT (up-looking)
See Procedure PRO(IRT)-001

#	Question	Yes	No
1.	Is lens clean and dry? *If NO, see Procedure PRO(IRT)-001.*		
2.	Is the lens free of any internal condensation?		
3.	Are all cables and cable connectors securely attached and free of damage?		

SKYRAD – PIR (shaded #1)
See Procedure PRO(PIR)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is ventilator fan running?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Is desiccant dry/blue? *If NO, see Procedure PRO(PIR)-002.*		
7.	Is shading mechanism blocking dome from direct sunlight?		

SKYRAD – PIR (shaded #2)
See Procedure PRO(PIR)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is ventilator fan running?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Is desiccant dry/blue? *If NO, see Procedure PRO(PIR)-002.*		
7.	Is shading mechanism blocking dome from direct sunlight?		

SKYRAD – PSP (B/W) (shaded)
See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is ventilator fan running?		
4.	Is the dome free of scratches or pits?		
5.	Is the dome free of cracks?		
6.	Are all cables and cable connectors securely attached and free of damage?		
7.	Is desiccant dry/blue? *If NO, see Procedure PRO(PSP)-002.*		
8.	Is shading mechanism blocking dome from direct sunlight?		

SKYRAD – NIP (on tracker)
See Procedure PRO(NIP)-001

#	Question	Yes	No
1.	Was the window clean of debris, water or water spots prior to daily cleaning?		
2.	Is window free of scratches or pits?		
3.	Is the window free of cracks?		
4.	Is the inside of the window free of condensation?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Check the NIP alignment using the solar bull's eye. Is the sun dot at least halfway in the white ring?		

SOLAR TRACKER

#	Question	Yes	No
1.	Is the Tracker following the sun angle?		
2.	Are all cables and cable connectors securely attached and free of damage?		

DAQS – SKYRAD

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		

GNDRAD – PIR (down-looking)
See Procedure PRO(PIR)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of scratches or pits?		
3.	Is the dome free of cracks?		
4.	Are all cables and cable connectors securely attached and free of damage?		
5.	Is desiccant dry/blue? *If NO, see Procedure PRO(PIR)-002.*		

GNDRAD – PSP (down-looking)
See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Is desiccant dry/blue? *If NO, see Procedure PRO(PSP)-002.*		

GNDRAD – IRT (down-looking)
See Procedure PRO(IRT)-001

#	Question	Yes	No
1.	Is lens clean and dry? *If NO, see Procedure PRO(IRT)-001.*		
2.	Is the lens free of any internal condensation?		
3.	Are all cables and cable connectors securely attached and free of damage?		

DAQS – GNDRAD

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		

SMET INSTRUMENT ASSEMBLY – Optical Rain Gauge
See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Is lens clean? ** You should only clean surface monthly by using the optics brush/or as needed.		
2.	Is the sensor arm free of debris (nests, webs, etc.)?		

SMET INSTRUMENT ASSEMBLY – Wind Speed and Direction
See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Are both sensors pointing the same direction?		
2.	Are the propellers rotating when there is wind?		

SMET INSTRUMENT ASSEMBLY – T/RH Sensor
See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Is the aspirator operating?		
2.	Is the probe filter free of salt or dirt? *If NO, see Procedure PRO(SMET)-001*		

DAQS – SMET

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		
2.	Is desiccant dry/(blue)? *If tube contents are more than 75% pink, replace the desiccant, see PRO(SMET)-001.*		

STAND-ALONE INSTRUMENTS (outside) – CEILOMETER

#	Question	Yes	No
1.	Is window clean? *If NO, see Procedure PRO(CEI)-004*		

STAND-ALONE INSTRUMENTS (outside) – Microwave Water Radiometer (MWR)
See Procedure PRO(MWR)-001

#	Question	Yes	No
1.	Is the white teflon window undamaged?		
2.	Is the white teflon window clean? *If NO, see Procedure PRO(MWR)-001.*		
3.	Can you hear or feel the blower operating?		
4.	Lightly touch the dew sensor on top of the microwave radiometer. Did a RED light turn on? *(Clean sensor window every day)*		
5.	Placing your ear against the unit, did you hear six turns per minute when checking the functioning of the elevation mirror?		
6.	Is the rain sensor clean? Has all salt been removed from the rain sensor?		

STAND-ALONE INSTRUMENTS (outside) – Whole Sky Imager (WSI)

#	Question	Yes	No
1.	Is the dome clean (free of water spots, dust, or other debris)? *If dirty, clean with soft cloth and rainwater. See PRO(WSI)-001.*		
2.	Is the dome free of damage?		
3.	Is the occultor shading the entire camera lens under the dome?		

STAND-ALONE INSTRUMENTS (insidee A-Van) – Atmospheric Emitted Radiance Interferometer (AERI)

The AERI equipment on the White Shelves is a follows, from top to bottom: AERI Interferometer, UPS, Hatch UPS, Hatch Controller. The AERI equipment in the Gray Crate is a follows, from top to bottom: PSS tape drive, AERI Computer(FEP), Signal Conditioning Electronics unit, Black Body Temperature Controller, Sterling Cooler Electronics unit. The AERI Computer UPS is to one side.

Outside:

#	Question	Yes	No
1.	Climb on roof; inspect the roof opening and hatch assembly. Is it free of debris or damage?		
2.	Inspect the air intake on the side of the van. Is it free of debris or damage?		

Inside:

#	Question	Yes	No
3.	Are circuit breakers at the back wall in the "ON" position?		
4.	Is the Van temperature in the 65 to 75 degrees range?		
5.	Inspect blue insulation panels surrounding the ventilation closet; are the panels securely in place?		
6.	In the ventilation closet (open door inside) observe the roof opening; is the hatch open when it is not raining or closed when raining?		
7.	On the Hatch Controller is the switch in the "ON" position?		
8.	On the Hatch Controller are the indicator lights OFF?		
9.	On the FEP Monitor is the date and time (GMT) display correct?		
10.	On the FEP Monitor do the two (2) graphs display the full range?		
11.	On the FEP Monitor are the status indicators all GREEN? (If not indicate which are RED and which are YELLOW.)		
12.	On the AERI FEP Monitor, is the "DAT ARCHIVE" alarm **not** displayed with "Label and Install New Data Tape"? (If it is displayed, push small button on PSS drive and eject tape; label it; put it in AERI FEP "mail" tape box; and label and insert new tape into PSS Drive; click OK on dialog box on computer screen.)		
13.	On the Signal Conditioning Electronics unit is the switch ON?		
14.	On the Blackbody Temperature Controller unit is the AMBIENT switch OFF?		
15.	On the Blackbody Temperature Controller unit is the HOT switch ON?		
16.	On the Sterling Cooler Electronics unit is the switch ON?		
17	Is the air conditioner working? (Is it cooling the AERI shelter?)		

INSTRUMENT VAN (I-Van) – Environment
See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is van free of standing water inside?		
2.	Are air conditioners functioning?		
3.	Is van cool and dry?		
4.	Are lights functioning?		
5.	Are doors and latches sealed?		
6.	Are power boxes closed?		

STAND ALONE INSTRUMENTS (inside I-Van) – Micropulse Lidar (MPL)
See Procedure PRO(MPL)-002

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		
2.	Is the detector temperature between 10 and 40 degrees C?		
3.	Is the box temperature between 10 and 40 degrees C?		
4.	Is the laser temperature between 10 and 40 degrees C?		
5.	Are the DAY and TIME readings correct?		
6.	Check the remote handset. Is the display reading 1.0W, when the word STATUS (* key) is showing?		
7.	Is inside of view port window free of water, spider webs, and other debris? *If NO, see Procedure PRO(MPL)-002*		
8.	Is the inside of the Lidar tube free of condensation and debris?		
9.	Is the top of the transceiver free of debris or moisture? If NO, blow off debris with air or carefully dry it by dragging strips of tissue paper across the surface, without rubbing.		
10.	Hold a piece of paper over the transceiver. Does a uniform green circle display?		
11.	Press the test button on the front of the Shade Controller Chassis. Do the shutters drop down to cover the lens of the laser, return to open position 10-15 seconds later?		
12.	On the MPL-HR Computer, does the filename listed on the top agree with the current time display?		
13.	On the MPL-HR Computer, is the counter counting down?		
14.	On the MPL-HR Computer, is the backscatter plot displaying a jagged line graph?		
15.	On the MPL-HR Computer, does the cloud display agree with the actual conditions outside?		
16.	On the MPL-HR Computer, was recent data collection successful? (Refer to steps below)		
17.	*Use ladder to look atop the I-Van. (Do not climb on top while MMCR is on), Is the window clean? If NO, see Procedure PRO(MPL)-002*		

Additional Check Items:

Inside:

- To check on MPL-HR data collection go to the computer, and then do the following:
    1. Press Ctrl – Escape.
    2. Right-click green "U" at bottom right.
    3. Select "Show window" by left-clicking.

4. Verify successful file transfer of recent data.
5. Click on "x" close box.

Outside:

- Clean and dry the MPL-HR view port and sunshade window atop I-Van per question 17.

STAND-ALONE INSTRUMENTS (inside I-Van) – CEILOMETER Computer
See Procedure PRO(CEI)-004

#	Question	Yes	No
1.	Is the window screen free of warnings or alarms, and is the clock updating? If NO, press the "RESET" button?		

STAND-ALONE INSTRUMENTS (inside I-Van) – MWR

#	Question	Yes	No
1.	Is the data scrolling up the screen?		

STAND-ALONE INSTRUMENTS (inside I-Van) – Whole Sky Imager (WSI)
See Procedure PRO(WSI)-001

The WSI equipment in the Blue Box is as follows, from top to bottom: Monitor, Computer, Occultor ACP, Sensor ACP, MO Driver.   The GPS is a small box located outside the blue box. Every 10 minutes the WSI is supposed to grab an image, changes happen, data is archived and the Occultor moves. Open the front door of the WSI blue box and wait for the next scheduled grab (as indicated on the monitor) and watch for the following in this sequence:

#	Question	Yes	No
1.	Does the monitor display the correct date and time?		
2.	Is the monitor display free of flags?		
3.	Does the monitor display an image of the sky?		
4.	Does the monitor display show the sun within the occultor boundary?		
5.	Does the image on the monitor change?		
6.	Does the monitor display an "FTP IN PROGRESS" message in the status column (this happens only when the WSI is hooked to ADaM)?		
7.	On the Sensor ACP; do the "spectral" lights change		
8.	On the Occultor ACP; did the "ARC POSITION (DEG)" change?		

STAND-ALONE INSTRUMENTS (inside I-Van) – Millimeter Cloud Radar (MMCR)

The MMCR equipment on the hanging rack is a follows, from top to bottom: TWT Amp, Pulse Controller, Coherent Up & Down Converter, Oscilloscope, MUX, ADC, Receiver/ Modulator, Interface, Radar Computer, DMS Computer. The MMCR monitor is off to one side. The ABC switch "Black Box" is also off to one side.

Outside:

#	Question	Yes	No
1.	On the top of the I-Van (view from ground), is the Radome Cover undamaged (look for rips and tears)?		

Inside:

#	Question	Yes	No
2.	Examine the ceiling penetration from inside the van. Is the penetration free of leakage?		
3.	On the TWT Amplifier is the "Power On" LED lit?		
4.	On the TWT Amplifier is the "Remote" LED lit?		
5.	On the TWT Amplifier is the "Operate" LED lit?		
6.	On the TWT Amplifier is the "Fault" light off?		
7.	On the MUX, is the "Power" LED lit?		
8.	On the MUX, is the "Active" LED lit?		
9.	On the MUX, is the "Talk" LED and the "Listen" LED flashing?		
10.	On the ADC, is the "Power" LED lit?		
11.	On the ADC, is the "Talk" LED and the "Listen" LED flashing?		
12.	Is the Receiver Modulator display cycling between 50 and 90 meters? (Observe for at least 30 seconds).		
13.	On the Radar Computer, are all four LEDs lit?		
14.	On the DMS Computer, are all four LEDs lit?		
15.	On black box, switch to "RADAR" and press red button. On the monitor is the date and time (GMT) correct?		
16.	On the MMCR monitor, click on "POP4_CR.BAT" window to highlight it; then press F8 on the keyboard. Is there data on the screen?		
17.	If there is data on the screen, is it believable (look at clouds outdoors to compare)?		
18.	On the DMS computer, open the small door. Is the data tape visible in the tape drive to the right?		
19.	On the TWT Amplifier, open the small access door at the top left. Are all error lights off?		
20.	On the coherent Up and Down Converter, are the "alarm" (200Ghz. And 16.40 Ghz.) lights off?		

STAND-ALONE INSTRUMENTS (inside I-Van) – AERI

The AERI MADS computer and the PSS Tape Drive are near the MPL. It should have a setup identical to the AERI FEP and PSS in the A-Van.

#	Question	Yes	No
1.	On the AERI MADS Computer Monitor, is the "DAT ARCHIVE' alarm **not** displayed with "Label and Install New Data Tape"? (If it is displayed, push small button on PSS drive and eject tape; label it with as per example on AERI tape box; put it in AERI MADS "RESET" tape box; and label and insert new tape insert PSS Drive; click OK on dialog box on computer screen.		
2.	Is the AERI MADS icon displayed?		
3.	Are the AERI plots displayed? *If NO, see PRO(AERI)-001.*		

DATA VAN (D-Van) – Environment
See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is van free of standing water inside?		
2.	Are air conditioners functioning?		
3.	Is van cool and dry?		
4.	Are lights functioning?		
5.	Are doors and latches sealed?		
6.	Are power boxes closed?		

DATA VAN – SDS

On the work surface closest to the Van entrance and to the left of the SDS rack you will find:
- R1 Monitor
- The "Media to be **MAILED**","Media to be **ARCHIVED**", and "**BLANK** media" containers are all located on the upper shelf.

On the work surface at the rear of the Van and to the right of the SDS rack you will find the **SAM Laptop.**

#	Question	Yes	No
1.	Did you login to R1 successfully? Go to the R1 Monitor, at the HandS page login as (oper) and enter the password (ru4reel), and press the Enter key.		
2.	Under the Data Processing heading are all collections active? If not view details page and list instruments that are not collecting and notify on call SSU Tech at 8947-3815.		
3.	Under the Data Processing heading are all ingests active? If not view details page and list instruments that are not ingesting and notify on call SSU Tech at 8947-3815.		
4.	Under the Disk heading are all disks under limit? If not notify on call SSU Tech at 8947-3815.		
5.	Under the Daemon heading are all active? If not notify on call SSU Tech at 8947-3815.		
6.	Under the Network heading are all active? If not notify on call SSU Tech at 8947-3815.		
7.	Go to the rear of the SDS rack and make a visual check. Are all fans operating correctly?		

STAND-ALONE INSTRUMENTS (inside D-Van) – EMWIN

EMWIN (Emergency Manager's Weather Information Network) is a system installed by Colin Schultz working for SPREP. The system provides weather, satellite images, and emergency information. EMWIN is located at the back corner of the D-Van.

#	Question	Yes	No
1.	Is the system operating properly?		

DATA VAN (D-Van) – RACE

#	Question	Yes	No
1.	Is the fan blowing?		
2.	Are the cables securely attached and free of damage?		

DATA VAN (D-Van) – SAM

#	Question	Yes	No
1.	Are all the dots GREEN or YELLOW? (If red, press and communicate reason displayed, and call BOM at 618-8984-4515 or TWPO at 1-505-667-1186.)		

DATA VAN (D-Van) – GOES Computer

#	Question	Yes	No
1.	Is the ZOC Software up and running (upper left corner)?		
2.	Are there numbers filling half of the screen?		
3.	Does the screen say completed "GOES Transmission, Okay, Waiting for GOES Transmission"?		

EXPANSION VAN (E-Van) – Environment
See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is van free of standing water inside?		
2.	Are air conditioners functioning?		
3.	Is van cool and dry?		
4.	Are lights functioning?		
5.	Are doors and latches sealed?		
6.	Are power boxes closed?		

STAND-ALONE INSTRUMENTS (inside E-Van) – Balloon Borne Sonding System (BBSS)
See Procedure PRO(BBSS)-002

- **The BBSS equipment includes the Digicora and the BBSS computer.**
- **Generate H_2 gas every day. (Item 10 on Fax Sheet)**

The BBSS equipment includes the DigiCora and the BBSS computer.

#	Question	Yes	No
1.	Was the balloon/sonde successfully launched on the first try last night at 11:30GMT?		
2.	Was the pilot message printed for the 11:30GMT launch?		
3.	If 11:30 launch was not successful, was 2nd launch successful?		
4.	Was the balloon/sonde successfully launched on the first try today at 23:30GMT?		
5.	Was the pilot message printed for the 23:30GMT launch?		
6.	If 23:30 launch was not successful, was 2nd launch successful?		

UTILITY VAN (U-Van) – Environment
See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is van floor free of standing water, diesel, oil, or fluids inside?		
2.	Are air conditioners functioning?		
3.	Is van cool and dry?		
4.	Are lights functioning?		
5.	Are doors and latches sealed?		
6.	Are power boxes closed?		

UTILITY VAN – Generator
See Procedure PRO(GEN)-004

NOTE: IF GRID POWER HAS BEEN DOWN 2 DAYS OR MORE THIS WEEK, NOTE THIS IN THE SITE DATA LOG'S DAILY ROUNDS COMMENTS SECTION.

#	Question	Yes	No
1.	Are all vents in the OPEN position, secured, and rotating freely (oil if required)?		
2.	Are all fuel line fittings associated within U-VAN GENSET area and the fuel filter connections dry and free of leakage?		
3.	At the Electronic Control Module, is the battery voltage level 24V or greater?		
4.	Check oil fluid level. Is the level between the marks on the dipstick? (This level can be checked while the generator is running or at rest. The dipstick is located on front right engine area.) Add oil if necessary. Record level on daily fax sheet.		
5.	Check the diesel fuel level on the external fuel tank. Does the reading indicate tank is more than 1/4 full? Record level on Daily Fax Sheet.		
6.	Check the diesel fuel level at the Day Tank (a full reading should be indicated by the red float-type gauge). Is fuel level on gauge above half? Record level on Daily Fax Sheet.		
7.	Are the dipstick and fuel openings secured and returned to normal configuration?		
View the display on the Electronic Console Module. Record the number of hours run and enter into the Site Data Log daily rounds GENSET Run time hours field			

GROUNDS and SECURITY

#	Question	Yes	No
1.	Are gates locked and secured?		
2.	Are tools and supplies stored correctly in the X-Van?		
3.	Are all vans locked?		
4.	Are power and electrical boxes locked and secure?		
5.	In the last 24 hours, has the site been free of uninvited guests?		
6.	Are all vans clean and swept out?		

GENERAL

#	Question	Yes	No
1.	Is phosphate **NOT** being loaded on Nauru today?		

SDL COMMENTS SECTION NOTES: These should be very brief, as in the following examples:

For SMET INSTRUMENT ASSEMBLY - WIND SPEED AND DIRECTION
Question #1: lower wind sensor broken; propeller not turning; points N constantly.

For UTILITY VAN - GENERATOR Question #3: battery voltage 15V.

Phosphate is being loaded today.

Initial night launch was unsuccessful, launched another balloon at 23:55GMT.

Removable HD removed, replaced and sent via DHL to USA.